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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/697,492	10/27/2000	Pascal Lefebvre	Q61274	3518

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EXAMINER	
PHAN, MAN U	
ART UNIT	**PAPER NUMBER**
2665	

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/697,492	LEFEBVRE, PASCAL	
	Examiner	Art Unit	
	Man Phan	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 8-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,8-10 and 12* is/are rejected.

7)☒ Claim(s) *2 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment and Argument

1. This communication is in response to applicant's 06/24/2005 Amendment in the application of Lefebvre for a "Telecommunication network and a method for controlling such network" filed 10/27/2000. This application claims foreign priority based on an application filed in European Patent Office (EPO) 99402883.5 - dated 11/19/1999. The proposed amendment to the claims and response have been entered and made of record. Claims 1-2 have been amended to correct grammatical errors. Claims 1-4, 8-12 are pending in the present application.

2. Applicant's amendment and argument to the rejected claims are insufficient to distinguish the claimed invention from the cited prior arts or overcome the rejection of said claims under 35 U.S.C. 103 as discussed below. Applicant's argument with respect to the pending claims have been fully considered, but they are not persuasive for at least the following reasons.

3. In response to applicant's argument that the combination of Aida et al. (US#6,212,163) and Dail et al. (US#5,953,344) fails to present a prima facie case of obviousness. In response, it has been held that a prior art reference must either be in the field of applicants endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). It is not necessary that a "prima facie" case of unpatentability exist as to the claim in order for "a substantial new question of patentability" to be present as to the claim. Thus, "a substantial new question of patentability" as

to a patent claim could be present even if the examiner would not necessarily reject the claim as either fully anticipated by, or obvious in view of, the prior art patents or printed publications. As to the importance of the difference between "a substantial new question of patentability" and a "prima facie" case of unpatentability see generally In re Etter, 756 F.2d 852, 857 n.5, 225 USPQ 1, 4 n.5 (Fed. Cir. 1985). Also, See MPEP § 2141.01(a) for a discussion of analogous and nonanalogous art in the context of establishing a prima facie case of obviousness under 35 U.S.C. 103. See MPEP § 2131.05 for a discussion of analogous and nonanalogous art in the context of 35 U.S.C. 102. 904.02.

4. Applicant's argument with respect to the rejected claim 10 (page 8,last paragraph) that the cited references do not disclose the call control circuit that variably controlling *"a bandwidth allocated to a downward virtual path from the ATM network to a user"*. However, Aida (EP 0814632A2) discloses in Fig. 1 a block circuit diagram illustrated the structure of an output buffer in ATM connection admission control, in which the buffer state information is responsible for allocating bandwidth. In this case, the purpose of connection admission control is for bandwidth allocation, and Aida is applied herein for the teaching of the Connection Admission Control (CAC) in optimizing the bandwidth allocation within the network. Aida further teaches Fig. 2 illustrated a CAC section, in which a connection admission controller in communication with the service category traffic parameters (rate monitor) to determine a bandwidth allocation for a requested connection in response to the traffic flow, and to permit oversubscription of allocated bandwidth based on an allocation factor when measured traffic flow is less than a

subscribed bandwidth provided by at least one traffic parameter of the connection request (page 4, lines 43 plus and page 6, lines 15 plus).

Aida et al., further teach a multiplexer (Fig. 7, ATM exchanger) in which the user cells are assigned a virtual channel (Fig. 7 see downward direction from user to receiving end user) based on a given quality of service (page 5, lines 29 - page 6 line 11) per the ATM standard. Multiple virtual channels may share a virtual path as is known the art for ATM transmission. Each virtual channel is assigned a buffer memory for the ATM cells to which assigned a priority corresponding to the given quality of service (page 5 lines 34-39, and Fig. 1) The quality of service categories include CBR, VBR RT, VBR NRT and UBR (page 5, lines 29-30) and apply to each direction of transmission since a virtual path is setup in each direction of transmission, since this is known in the art for ATM transmission from the ATM standard. The system manages the upstream and downstream requests independently and according to the available bandwidth on the virtual path. The virtual path is setup independently for each direction of transmission. Therefore the system *supports variable downstream bandwidth and fixed upstream bandwidth, using CBR for example.* The procedure is detailed on page 6, lines 46 - page 11, line 9. The control means is shown in Fig. 2 and includes buffer memory as shown in Fig. 1. This is equivalent to a telecommunication network, preferably an ATM network, in which the downward data rate, from the network to the users, is greater than the upward data rate, from the users to the network, comprising multiplexers for establishing connections, constituting virtual channels, between users and the network, the virtual channels being grouped into virtual paths, characterized in that, in each multiplexer close to the user, the bandwidth allocated to each downward virtual path is variable under the control of a

means, such as a 011 control means, provided upstream in a switching node and in that the upward virtual paths have a fixed bandwidth; further characterized in that the control means is provided with a memory containing information representing the maximum bandwidth allocated downwardly to each user and representing the bandwidth allocated downwardly to the interface, or the interfaces, between the users' multiplexer and the switching node, this control means using these information in order to limit the bandwidth allocated to each user to its authorized maximum, and in order to limit the total bandwidth allocated to the virtual paths to a value which is at most equal to the interface, or to interfaces; further characterized in that the multiplexer which is the closest to the user has, for each virtual channel of the downward direction, a buffer memory for ATM cells with a given priority; a multiplexer constituting a node of a telecommunication network for transmitting ATM cells, this node being close to a user, characterized in that, in this multiplexer, each downward virtual path has a plurality of virtual channels to each of which is allocated a given quality of service; further characterized in that, to each virtual channel is assigned a buffer memory for the ATM cells to which is assigned a priority corresponding to the given quality of service; further characterized in that the quality of service is selected among the following qualities of service: constant bit rate (CBR), variable bit rate (VBR) real time, variable bit rate non real time, and unspecified bit rate (UBR); providing a method for controlling a telecommunication network, in which connections are realized by virtual channels grouped into virtual paths, characterized in that the bandwidth of the downward virtual paths are controllable dynamically from an upstream controller (30) and in that the 20 bandwidth of each upward virtual path is fixed; characterized in that to each downward virtual channel, is assigned a given quality of service. Furthermore, ATM is a standard that defines high-load, high speed,

fixed size packet switching with dynamic bandwidth allocation. These methods have the advantage of utilizing the features defined in the ATM standard in a system to dynamically assign bandwidth to a downward virtual path while holding the upward path to a fixed bandwidth to support asymmetrical bandwidth situation such as an internet connection which may have a large, variable downstream requirement while the upstream bandwidth requirement is fixed in addition to managing QOS requirements. Therefore, examiner maintains that the references cited and applied in the last office actions for the rejection of the claims are maintained in this office action.

Claim Rejections - 35 USC ' 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by prior art under 35 U.S.C. 103(a).

6. Claims 1 and 8, 10, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aida et al. (US#6,212,163) in view of Dail et al. (US#5,953,344).

With respect to claims 1 and 10, Aida et al discloses a novel method and system for managing traffic between endpoints of an ATM network, according to the essential features of the claims. Aida et al. discloses a multiplexer (fig. 7, ATM exchanger) in which the user cells

are assigned a virtual channel (Fig. 7 see downward direction from user to receiving end user) based on a given quality of service (Col. 5 lines 6- Col. 6 line 10) per the ATM standard. Multiple virtual channels may share a virtual path as is known the art for ATM transmission. Each virtual channel is assigned a buffer memory for the ATM cells to which assigned a priority corresponding to the given quality of service (See Fig. 1 and Col. 5 lines 17-27). As examples of connection admission control methods that perform processing in real-time, connection admission control methods which can be applied to a single service category (especially those assuming Variable Bit Rate) are commonly known. In these methods, traffic parameters (peak cell rate and sustainable cell rate) reported from users are taken as inputs, and connection admission processing is performed within a standard period of time without depending on the number of calls or the traffic conditions. These methods are applied for each VP, and are carried out in the connection admission control section 1' shown in Fig. 7 by means of the flow procedure shown in Fig. 8 (Col. 1, lines 23 plus).

It's noted that ATM is an International Telecommunication Union-Telecommunication Standardization Sector standard of switching and multiplexing for high-speed broadband digital transmission where data bytes are organized into cells with a fixed length (ITU-T Recommendation I-150). ATM allows the use of multiple data streams to flexibly share the available bandwidth while providing a predetermined quality of service to each CPE. ITU-T Recommendation G.983.1 defines a standard for passive optical networks (PONs) in which fixed-size ATM (Asynchronous Transfer Mode) cells are used for all data transmissions. In an ATM network, fixed-size packets of data, known as "cells" (53 byte), are transferred between ATM switching devices ("switches"). An ATM cell includes a virtual circuit identifier (VCI) and virtual path

identifier (VPI) that identifies a bi-directional route (a "virtual circuit") between ATM network switches. Virtual circuits (also referred to as "virtual channels") provide the basis for both switching and multiplexed transmission. Routing of data frames between nodes can be achieved by identifying a virtual circuit and/or virtual path in the data frame's route designation information, converting the data frame to ATM cells, routing the cells through an ATM network using the identified virtual circuit and/or virtual path, and reassembling the cell into a data frame prior to delivery of the data frame to its destination. The use of an ATM network in the routing of data frames may be transparent to the nodes generating the data frame.

However, Aida does not disclose expressly the step wherein a downward data rate from the ATM network to the users is greater than an upward data rate from the users to the network. In the same field of endeavor, Dail et al. (US#5,953,344) teaches in Fig. 2 illustrated the format of the information in both upstream and downstream cells, in which the downward data rate from the network to users greater than the upward data rate from the users to the network (See also Figs. 4 & 5; Col. 5, lines 39 plus).

Regarding claims 8, 12, they are method claims corresponding to the apparatus claims 1, 10 above. Therefore, claims 8, 12 are analyzed and rejected as previously discussed with respect to claims 1, 10.

One skilled in the art would have recognized the need for increase the system performance and improving system bandwidth utilization, and would have applied Dail's teaching of the bandwidth allocation to a downward virtual path while holding the upward path to a fixed bandwidth to support asymmetrical bandwidth situation and managing QoS requirement into Aida's novel use of a the multi-class ATM connection admission control.

Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Dail's method and apparatus enabling enhanced throughput efficiency by use of dynamically adjustable mini-slots in access protocols for shared transmission media into Aida's method and device for multi-class ATM connection admission control with the motivation being to provide a method and system for managing the available network bandwidth more efficiently for situations requiring asymmetrical bandwidth.

7. Claim 3-4, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aida (US#6,212,163) in view of Dail et al. (US#5, 953,344), as applied to the claims above, and further in view of Chiu et al. (US#6,597,689).

Regarding claims 3-4, these claims differ from the claims above in that the claim requires the use of Switched Virtual Circuits (SVC) and Permanent Virtual Circuits (PVC). In the same field of endeavor, Chiu et al. teaches the use of PVCs and SVCs for setting up virtual connections in an ATM network to meet the QoS requirements, and for networks with asymmetrical user bandwidth requirement (Col. 7, line 22 – Col. 8, line 60). These methods have the advantage of increasing the system performance by improving system bandwidth utilization.

Regarding claim 9, It's a method claim corresponding to the apparatus claims 3-4 above. Therefore, claim 9 is analyzed and rejected as previously discussed with respect to claims 3-4.

One skilled in the art would have recognized the need for increase the system performance and improving system bandwidth utilization, and would have applied Chiu et al.'s teaching of the SVCs and PVCs signaling system, and the Dail's upstream and downstream

bandwidth allocation into Aida's novel use of a the multi-class ATM connection admission control. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Chiu's SVC signaling system and method, and Dail's method and apparatus enabling enhanced throughput efficiency by use of dynamically adjustable mini-slots in access protocols for shared transmission media into Aida's method and device for multi-class ATM connection admission control with the motivation being to provide a method and system for improving the system performance through the use of SVCs to dynamically assign bandwidth as needed to meet the QoS requirement.

Allowable Subject Matter

8. Claims 2 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose or suggest wherein the call control means is provided with a memory containing information representing a maximum bandwidth allocated downwardly to each user and representing a bandwidth allocated downwardly to one or more interfaces, between the users'multiplexer and the switching node, the call control means using information to limit the bandwidth allocated to each user to its authorized maximum, and to limit a total bandwidth allocated to the downward virtual paths to a value not greater than the bandwidth of the one or more interfaces, as specifically recited in claims 3-4 and 20-21.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Irwin (US#5,862,136) discloses a telecommunications apparatus and method.

Chang et al. (US#5,812,526) discloses a traffic control mechanism in ATM communications network.

Furukawa et al. (US#6,167,095) discloses a method and apparatus for variably allocating upstream and downstream communication spectra.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION THIS ACTION IS MADE FINAL**. See MPEP ' 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149.

The examiner can normally be reached on Mon - Fri from 6:00 to 3:00 EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

Mphan

09/03/2005.

MAN U. PHAN
PRIMARY EXAMINER